FIG.1

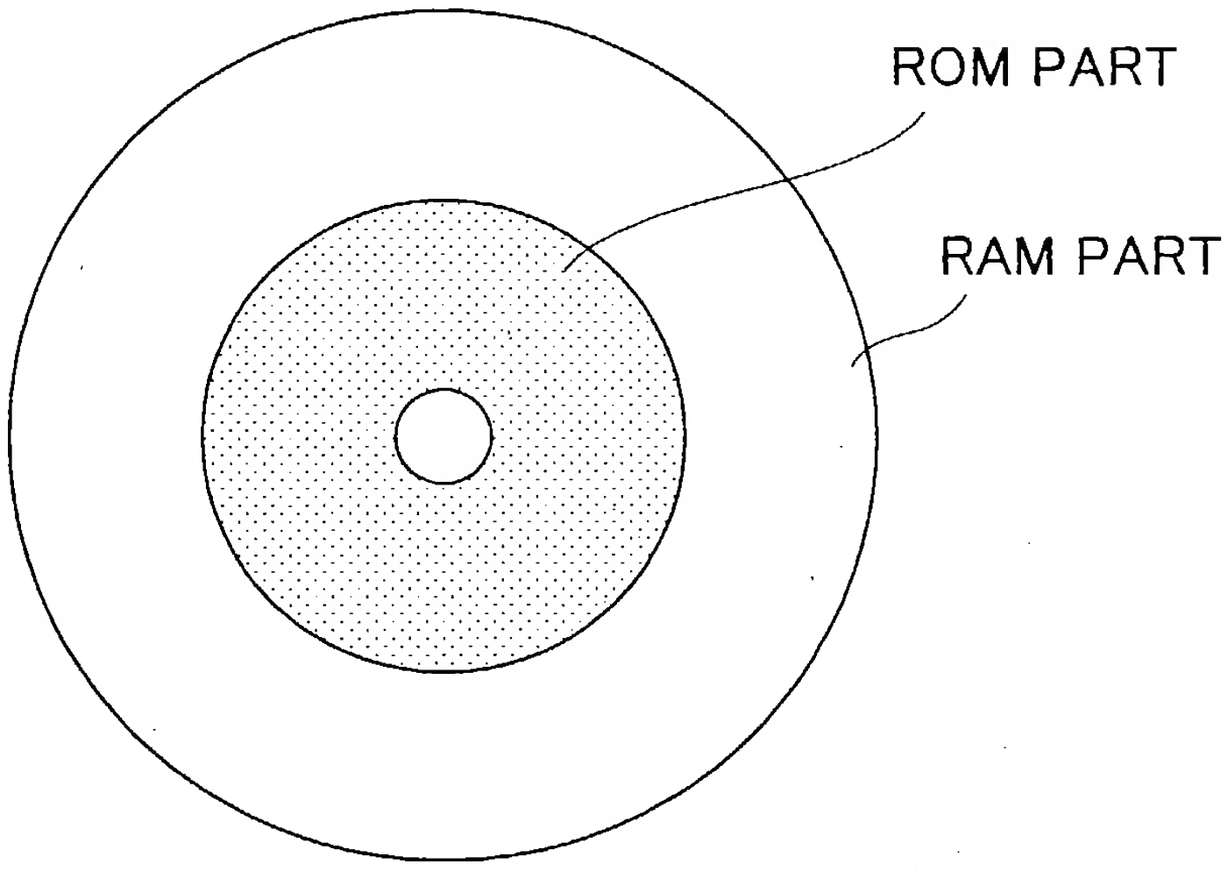


FIG.2

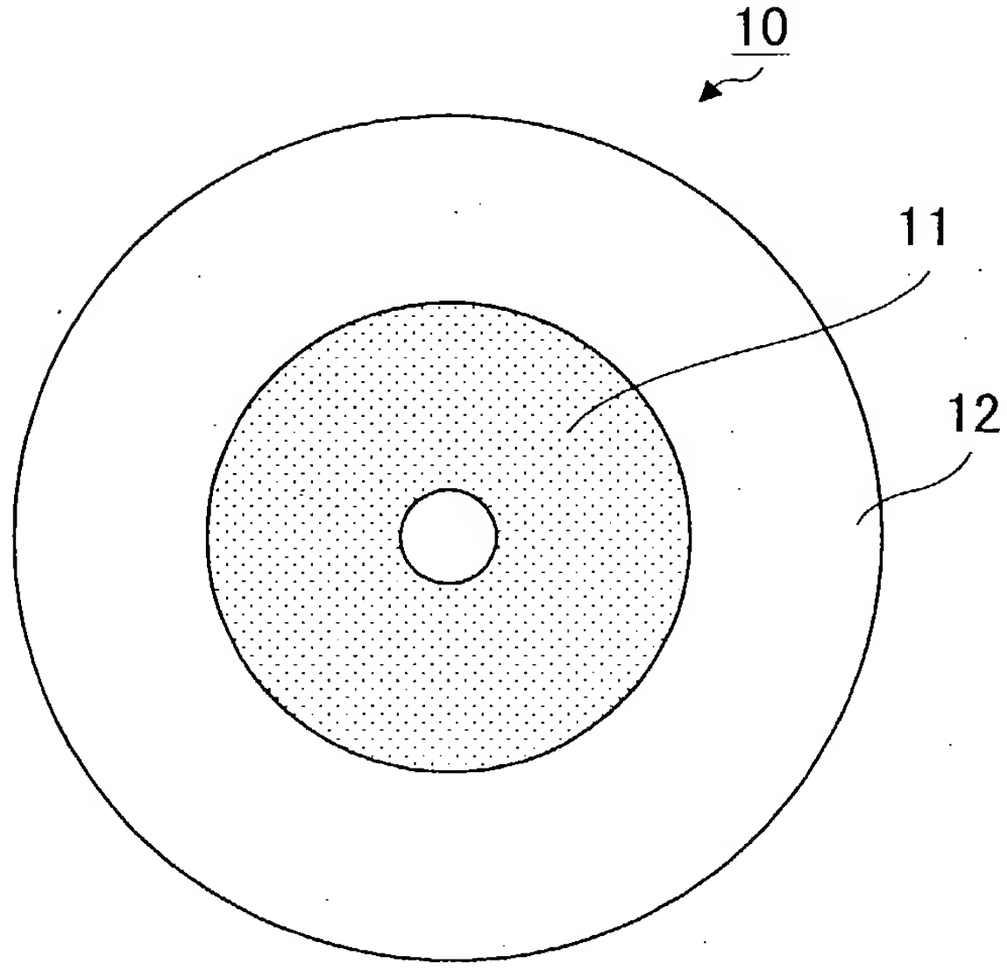


FIG.3

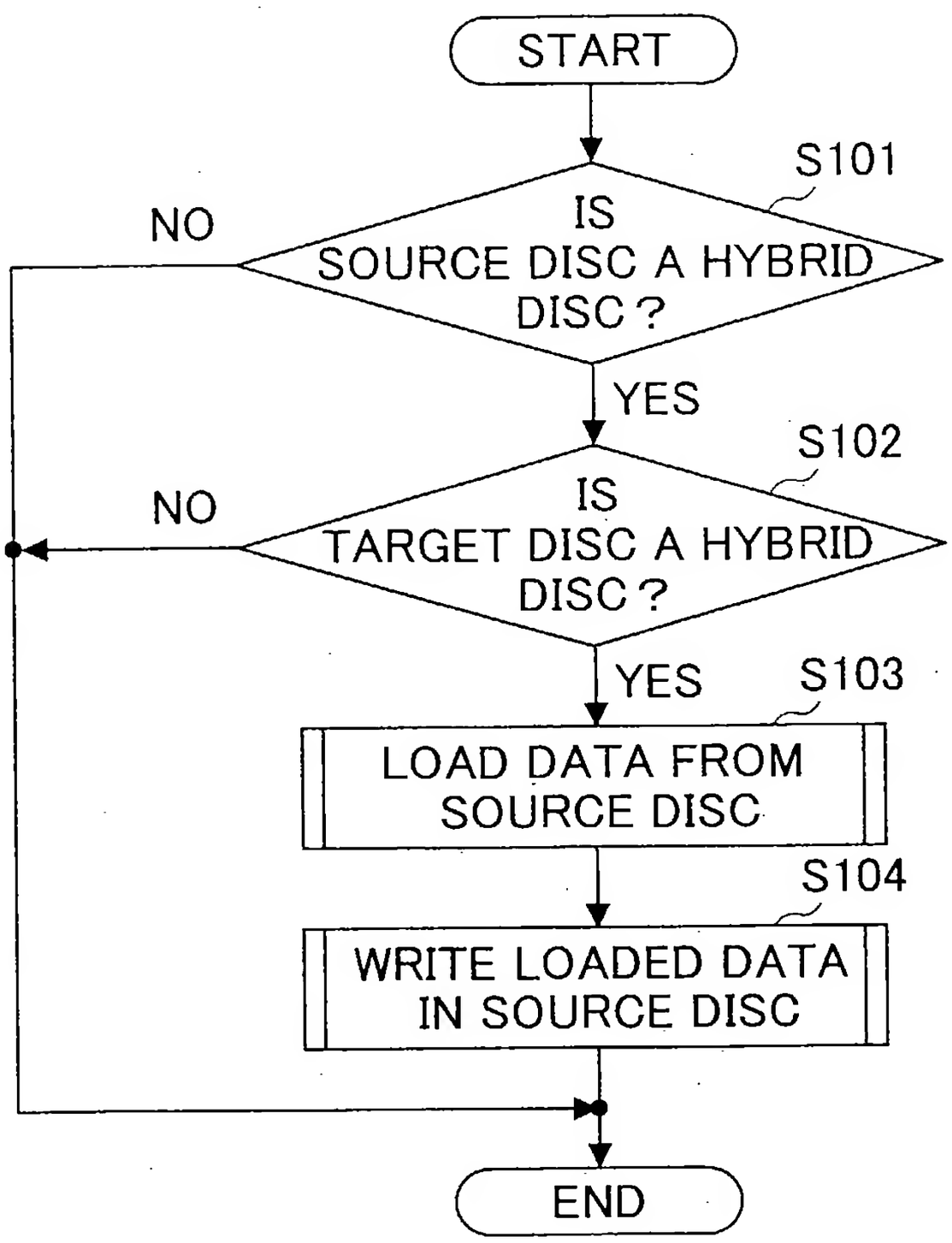

START
S101
IS SOURCE DISC A HYBRID DISC ?
NO
YES
S102
IS TARGET DISC A HYBRID DISC ?
NO
YES
S103
LOAD DATA FROM SOURCE DISC
S104
WRITE LOADED DATA IN SOURCE DISC
END

FIG.4

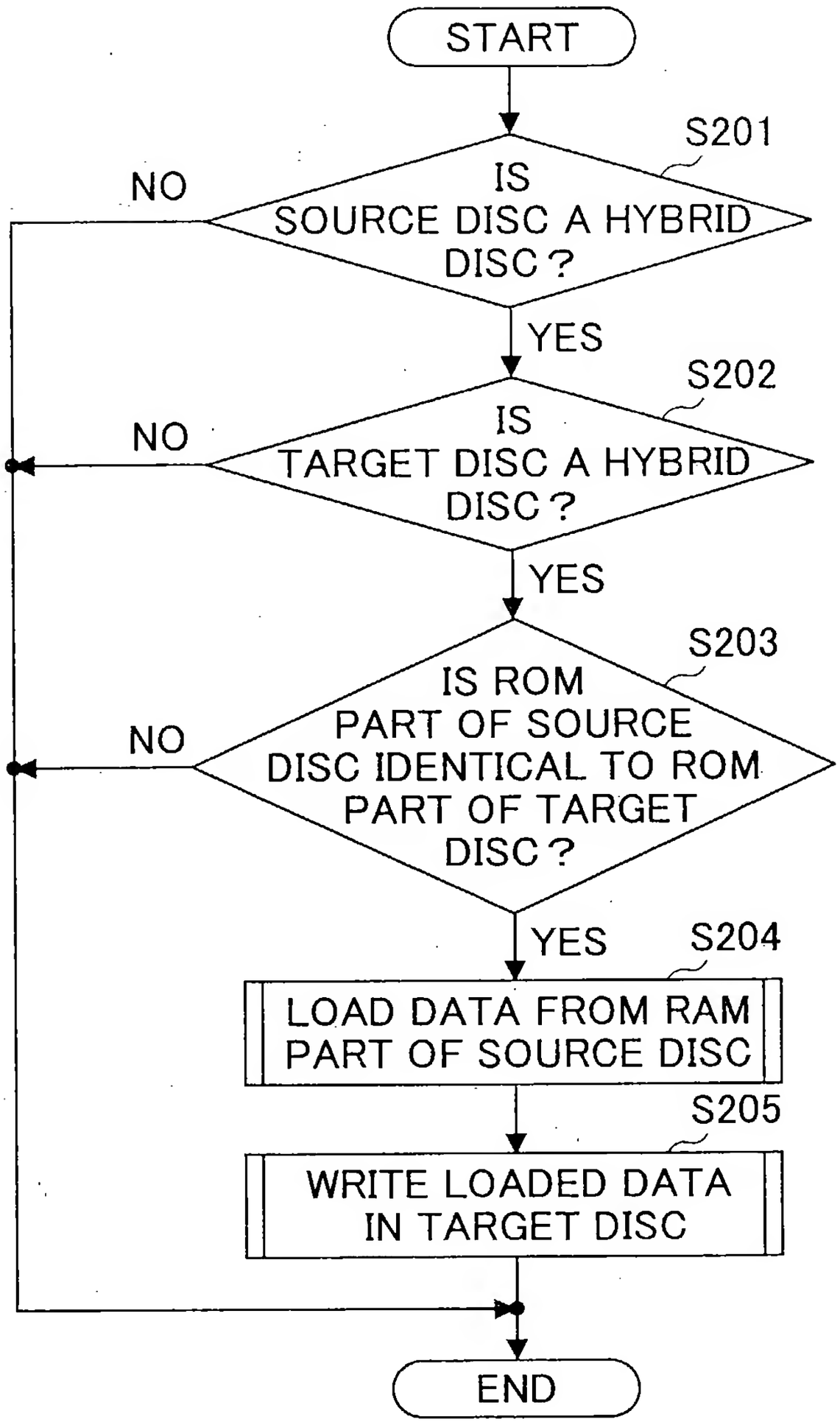

START
S201
IS SOURCE DISC A HYBRID DISC?
NO
YES
S202
IS TARGET DISC A HYBRID DISC?
NO
YES
S203
IS ROM PART OF SOURCE DISC IDENTICAL TO ROM PART OF TARGET DISC?
NO
YES
S204
LOAD DATA FROM RAM PART OF SOURCE DISC
S205
WRITE LOADED DATA IN TARGET DISC
END

FIG.5

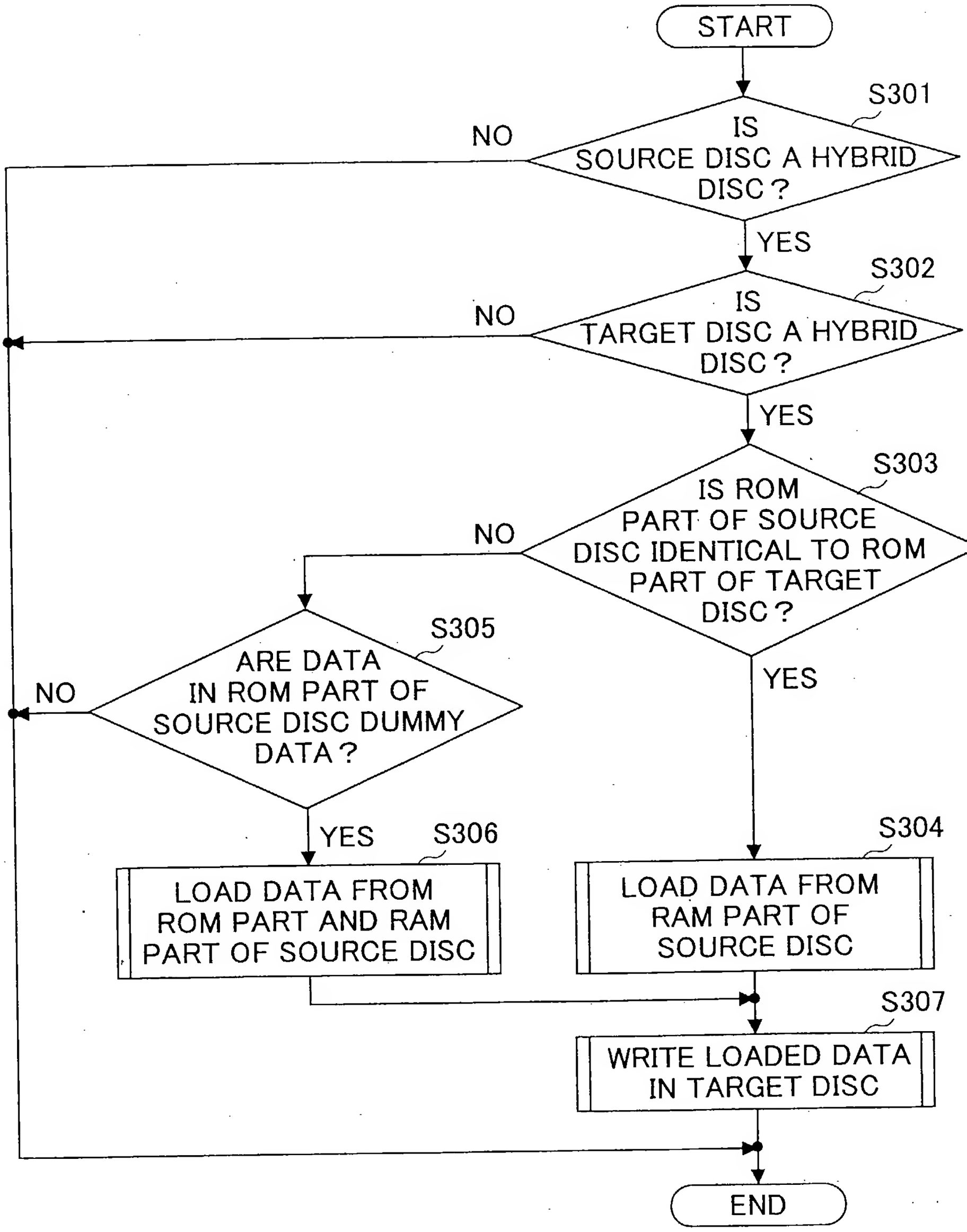

START
S301
IS SOURCE DISC A HYBRID DISC ?
NO
YES
S302
IS TARGET DISC A HYBRID DISC ?
NO
YES
S303
IS ROM PART OF SOURCE DISC IDENTICAL TO ROM PART OF TARGET DISC ?
NO
YES
S305
ARE DATA IN ROM PART OF SOURCE DISC DUMMY DATA ?
NO
YES
S306
LOAD DATA FROM ROM PART AND RAM PART OF SOURCE DISC
S304
LOAD DATA FROM RAM PART OF SOURCE DISC
S307
WRITE LOADED DATA IN TARGET DISC
END

FIG.6

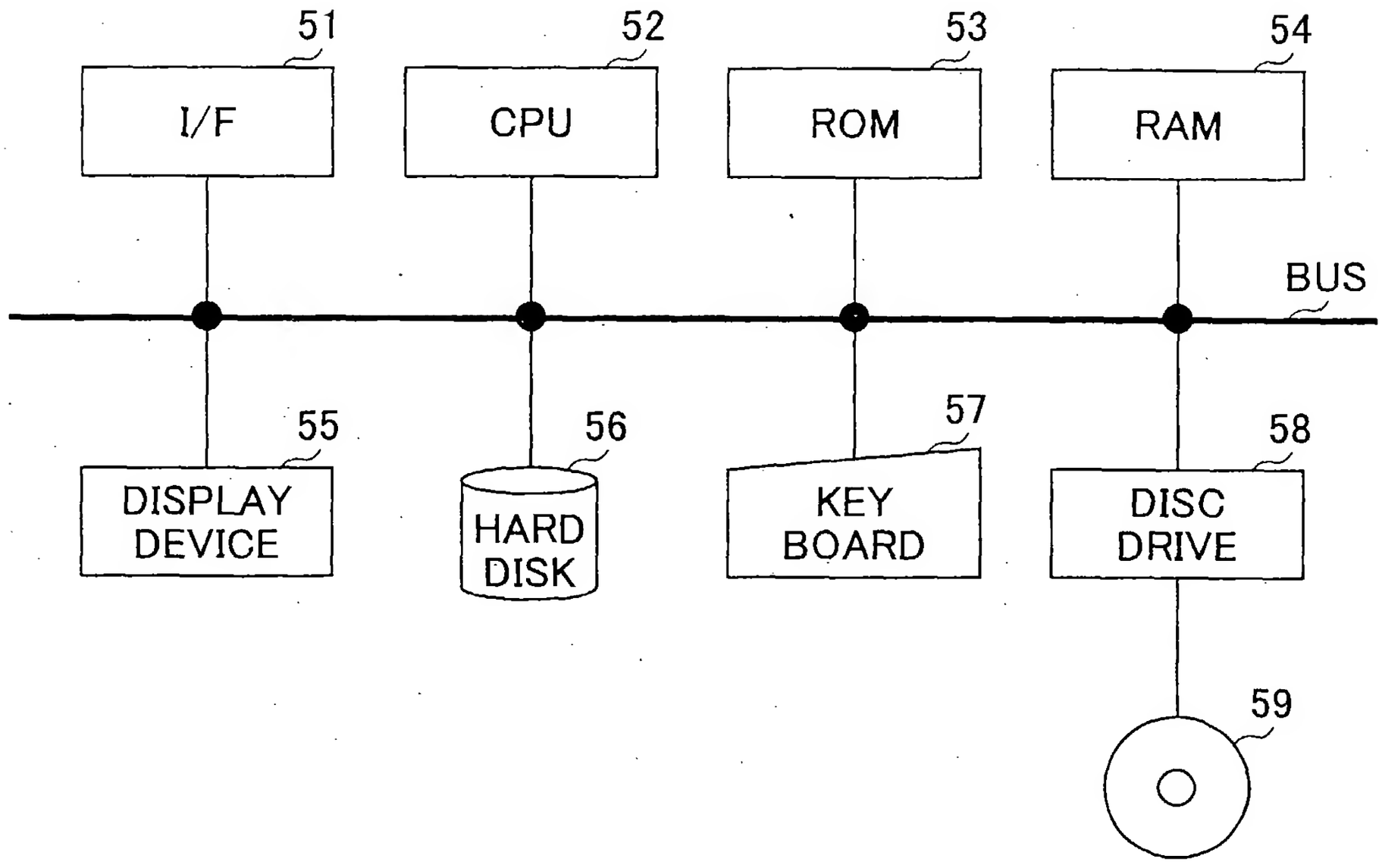

51
52
53
54
I/F
CPU
ROM
RAM
BUS
55
56
57
58
DISPLAY DEVICE
HARD DISK
KEY BOARD
DISC DRIVE
59

FIG.7

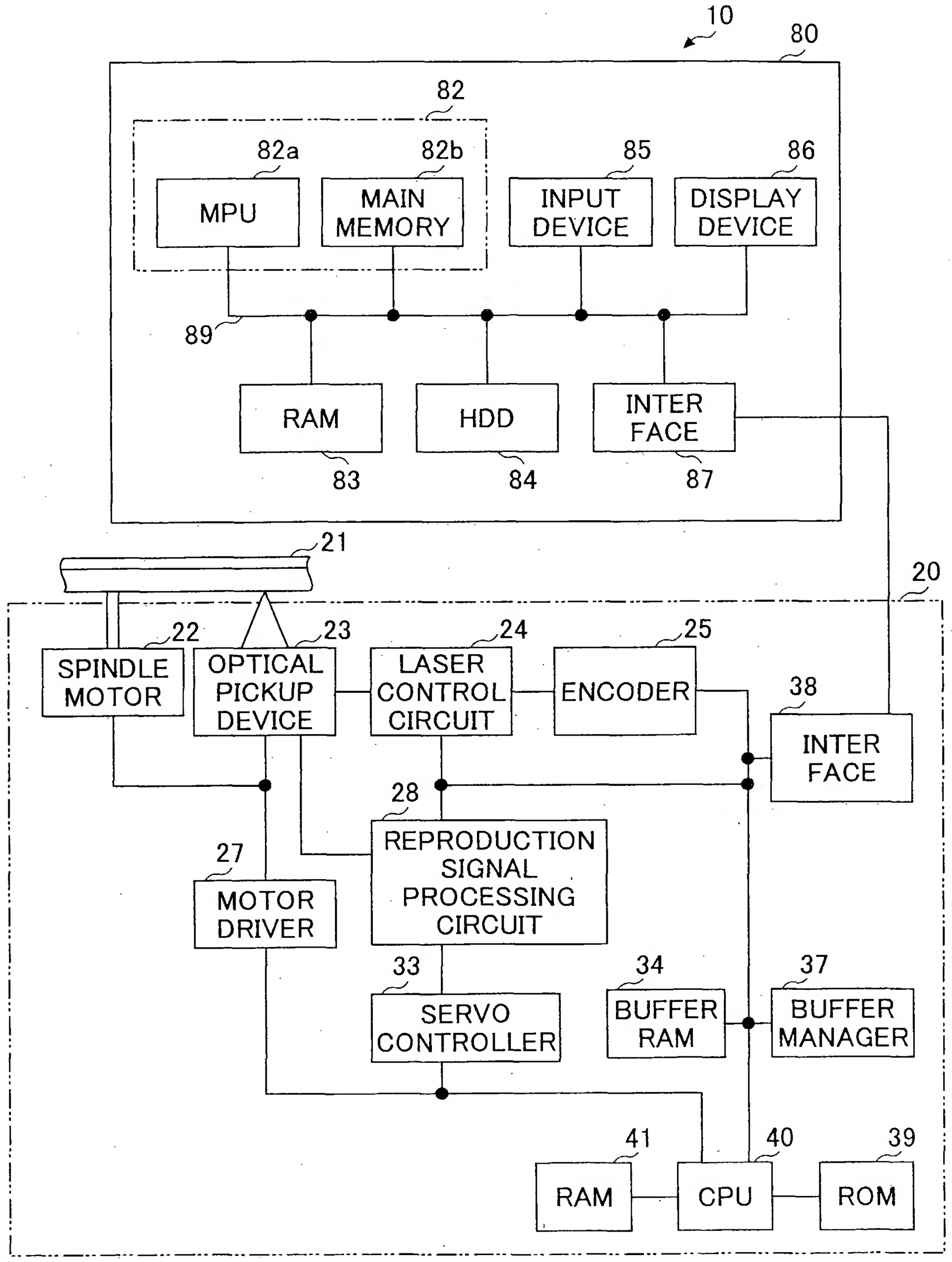

10
80
82
82a
82b
85
86
MPU
MAIN MEMORY
INPUT DEVICE
DISPLAY DEVICE
89
RAM
HDD
INTER FACE
83
84
87
21
20
22
23
24
25
SPINDLE MOTOR
OPTICAL PICKUP DEVICE
LASER CONTROL CIRCUIT
ENCODER
38
INTER FACE
28
REPRODUCTION SIGNAL PROCESSING CIRCUIT
27
MOTOR DRIVER
33
34
37
SERVO CONTROLLER
BUFFER RAM
BUFFER MANAGER
41
40
39
RAM
CPU
ROM

FIG.8

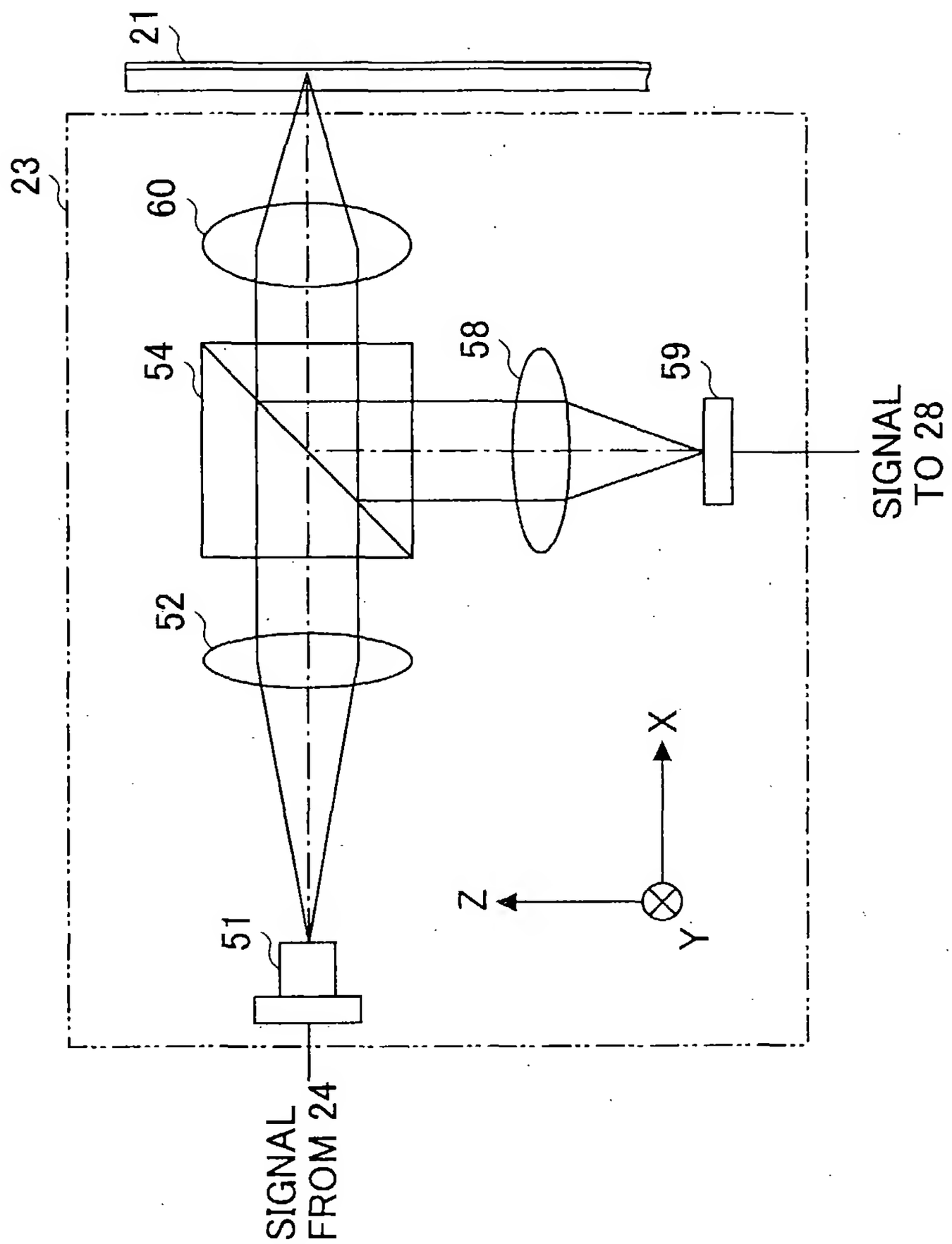


FIG.9

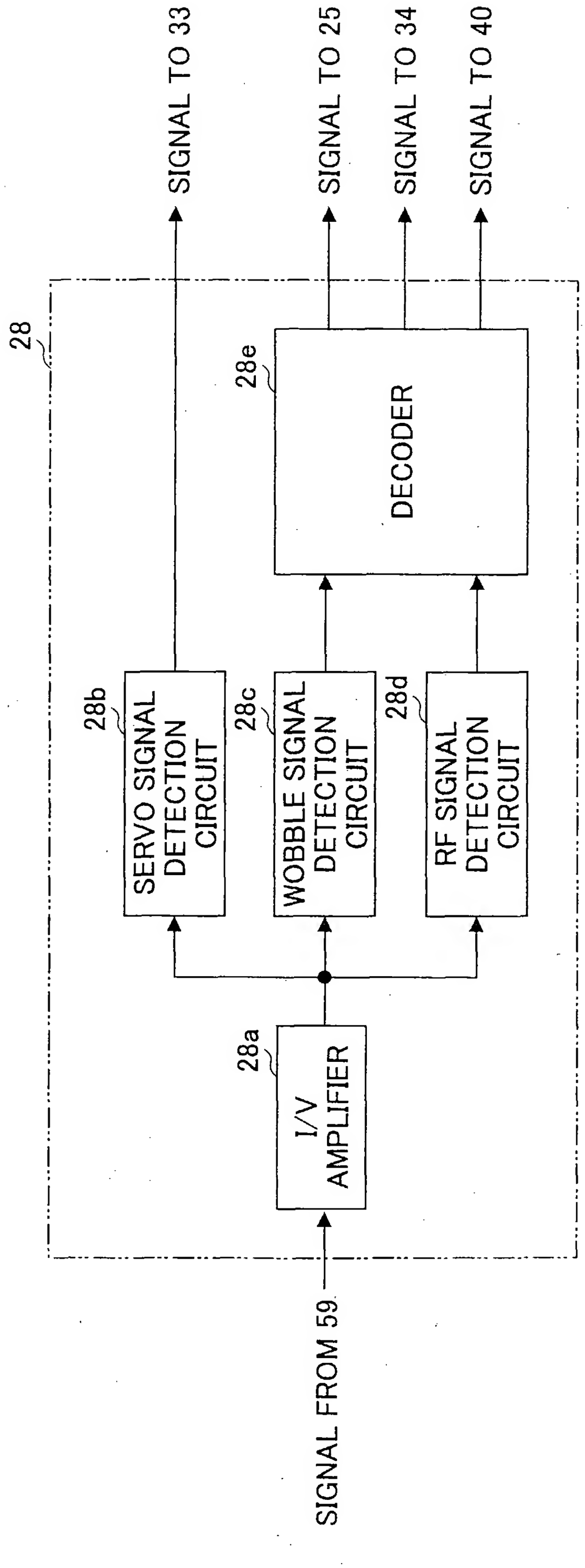

SIGNAL TO 33
SIGNAL TO 25
SIGNAL TO 34
SIGNAL TO 40
28
28e
DECODER
28b
SERVO SIGNAL DETECTION CIRCUIT
28c
WOBBLE SIGNAL DETECTION CIRCUIT
28d
RF SIGNAL DETECTION CIRCUIT
28a
I/V AMPLIFIER
SIGNAL FROM 59

FIG.10

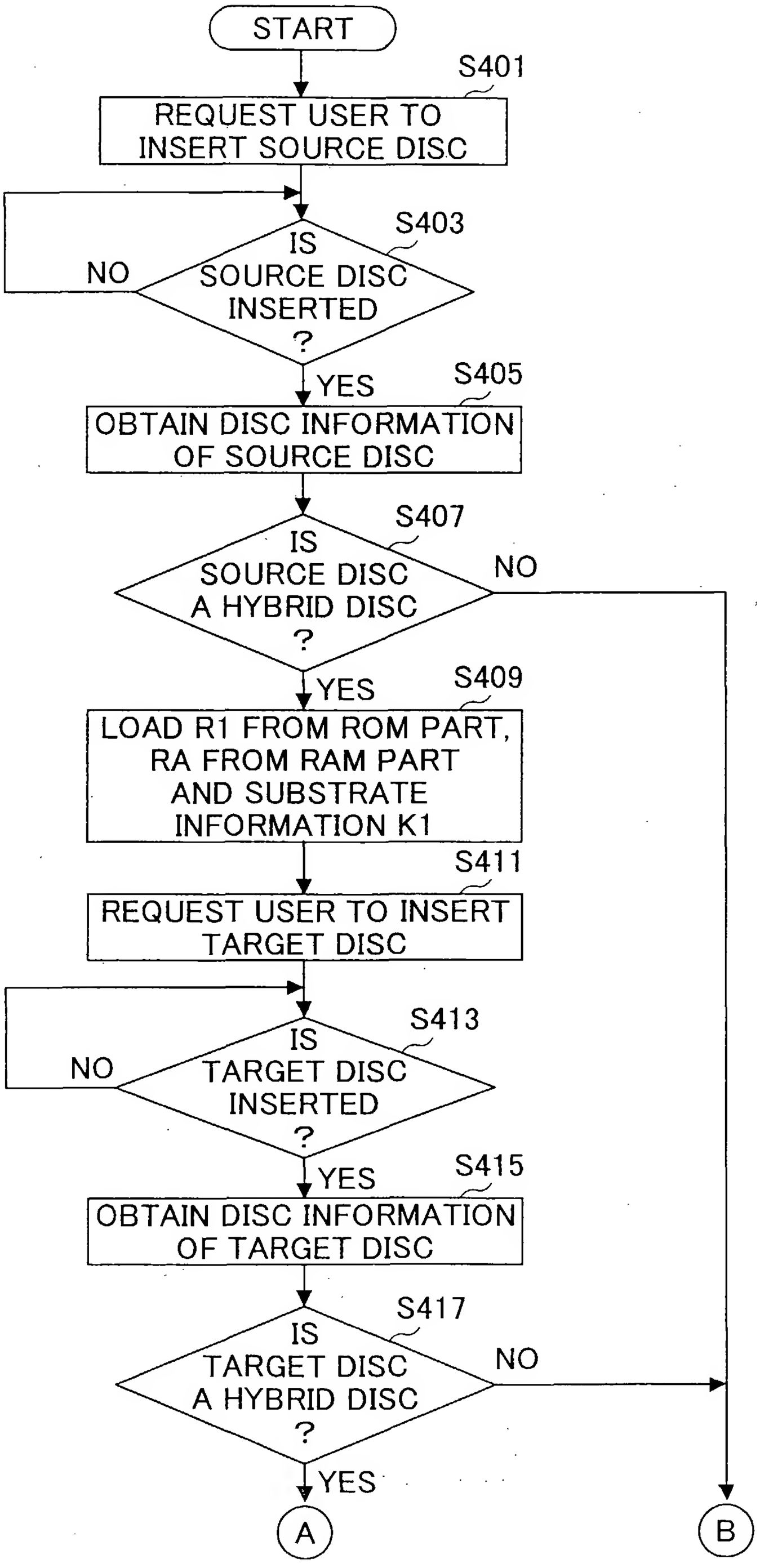

START
S401
REQUEST USER TO INSERT SOURCE DISC
S403
IS SOURCE DISC INSERTED ?
NO
YES
S405
OBTAIN DISC INFORMATION OF SOURCE DISC
S407
IS SOURCE DISC A HYBRID DISC ?
NO
YES
S409
LOAD R1 FROM ROM PART, RA FROM RAM PART AND SUBSTRATE INFORMATION K1
S411
REQUEST USER TO INSERT TARGET DISC
S413
IS TARGET DISC INSERTED ?
NO
YES
S415
OBTAIN DISC INFORMATION OF TARGET DISC
S417
IS TARGET DISC A HYBRID DISC ?
NO
YES
A
B

FIG.11

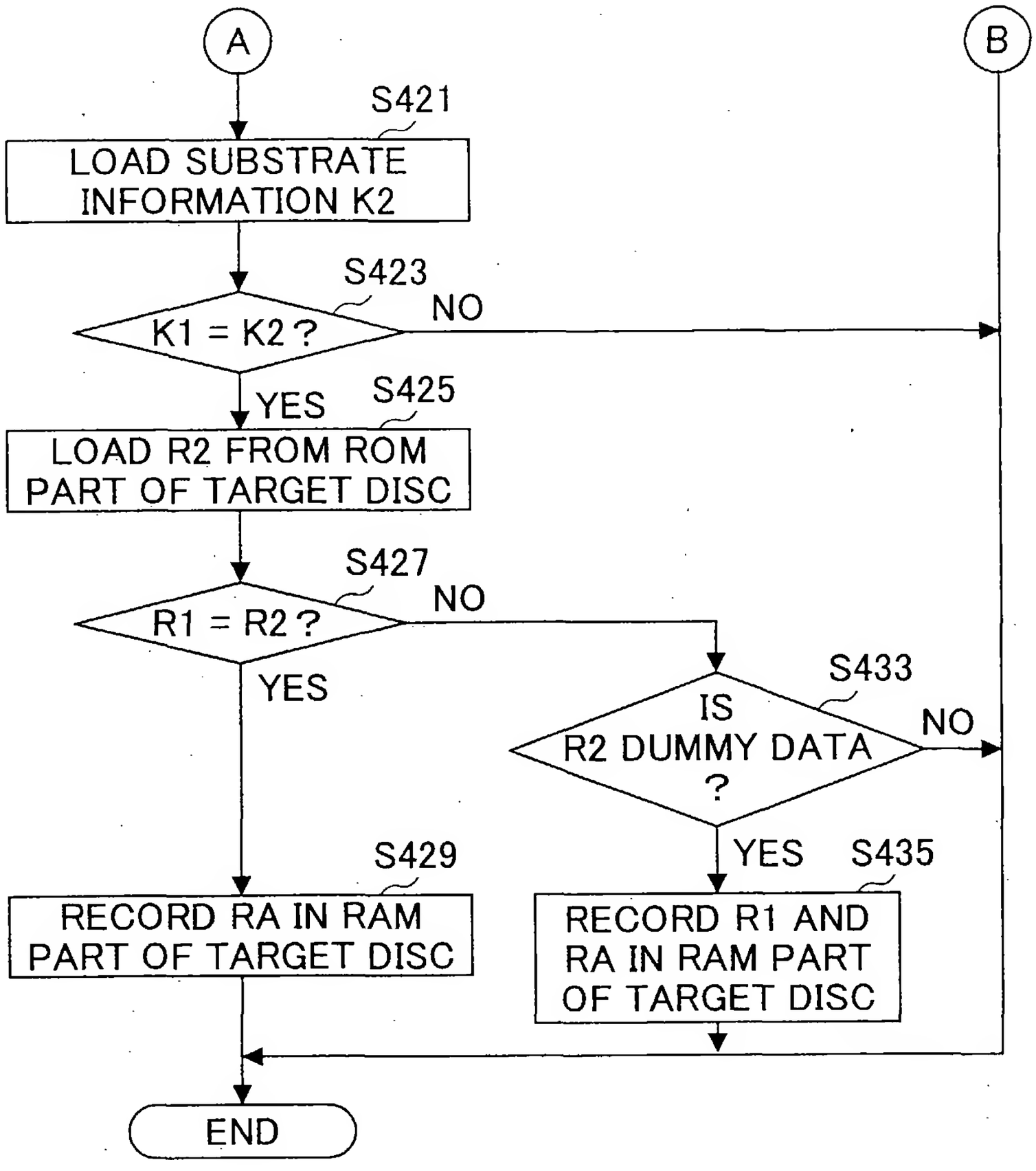

A
B
S421
LOAD SUBSTRATE INFORMATION K2
S423
K1 = K2 ?
NO
YES
S425
LOAD R2 FROM ROM PART OF TARGET DISC
S427
R1 = R2 ?
NO
YES
S433
IS R2 DUMMY DATA ?
NO
YES
S429
RECORD RA IN RAM PART OF TARGET DISC
S435
RECORD R1 AND RA IN RAM PART OF TARGET DISC
END

FIG.12

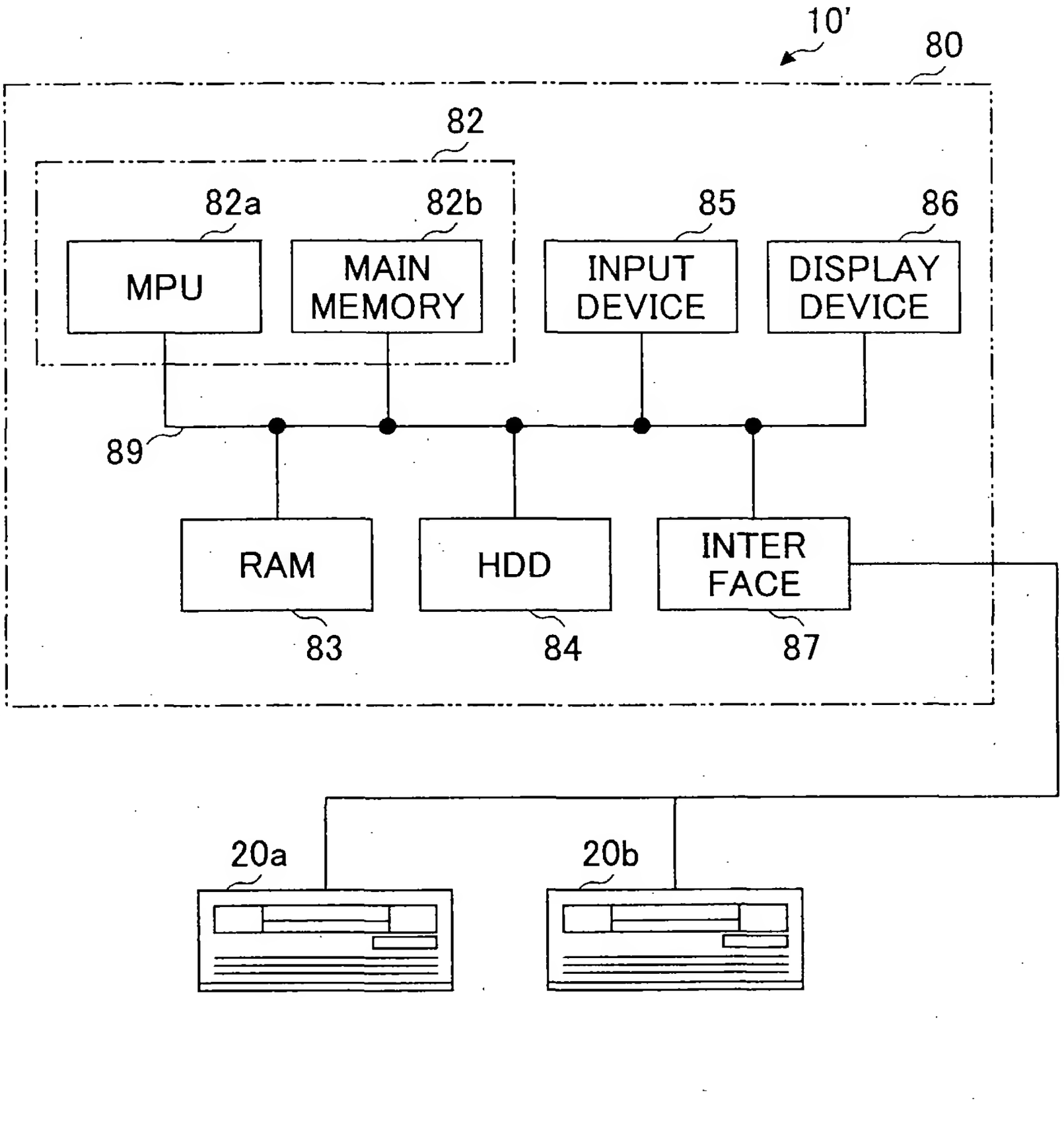

10'
80
82
82a
82b
85
86
MPU
MAIN MEMORY
INPUT DEVICE
DISPLAY DEVICE
89
RAM
HDD
INTER FACE
83
84
87
20a
20b

FIG.13

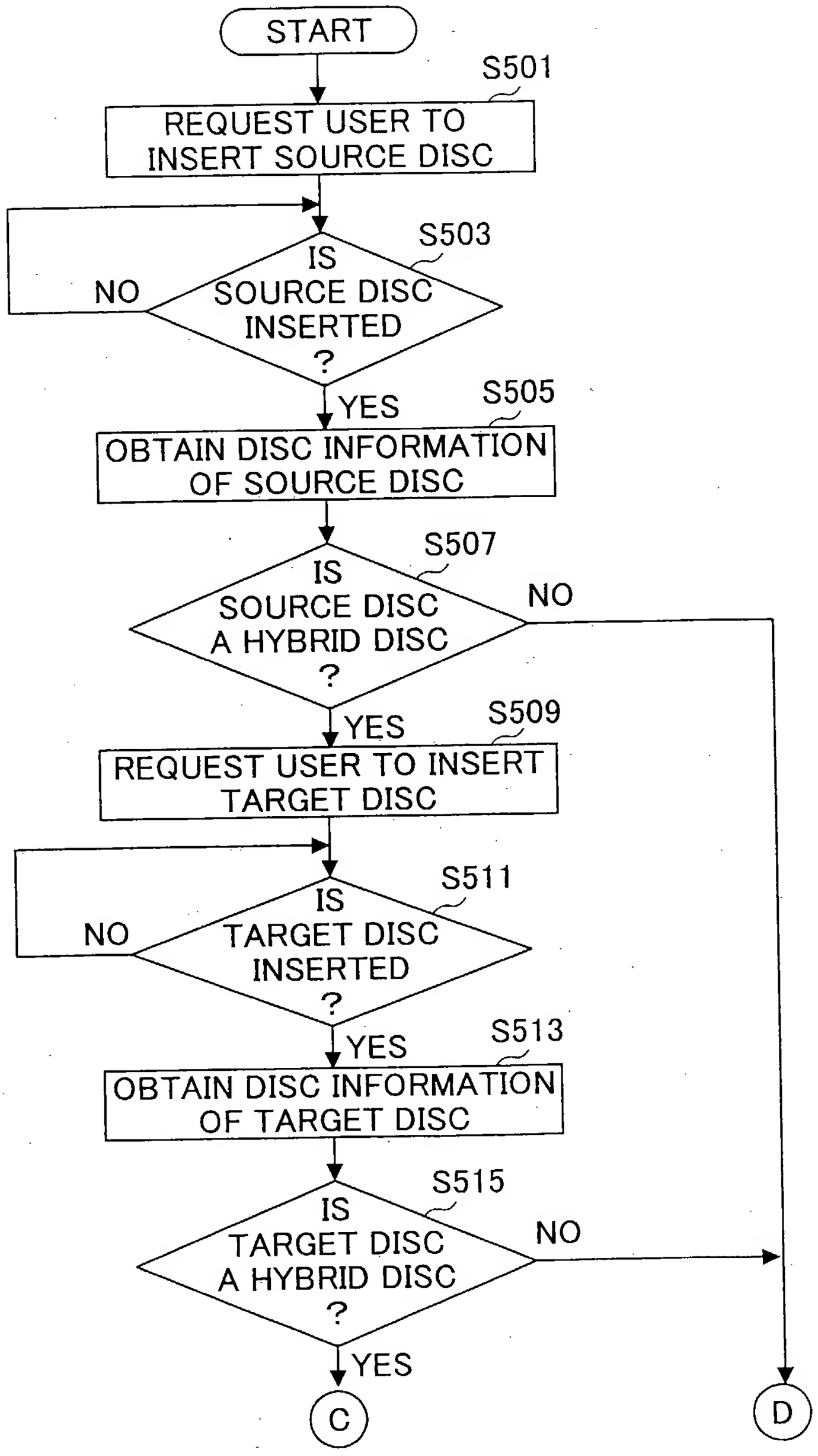
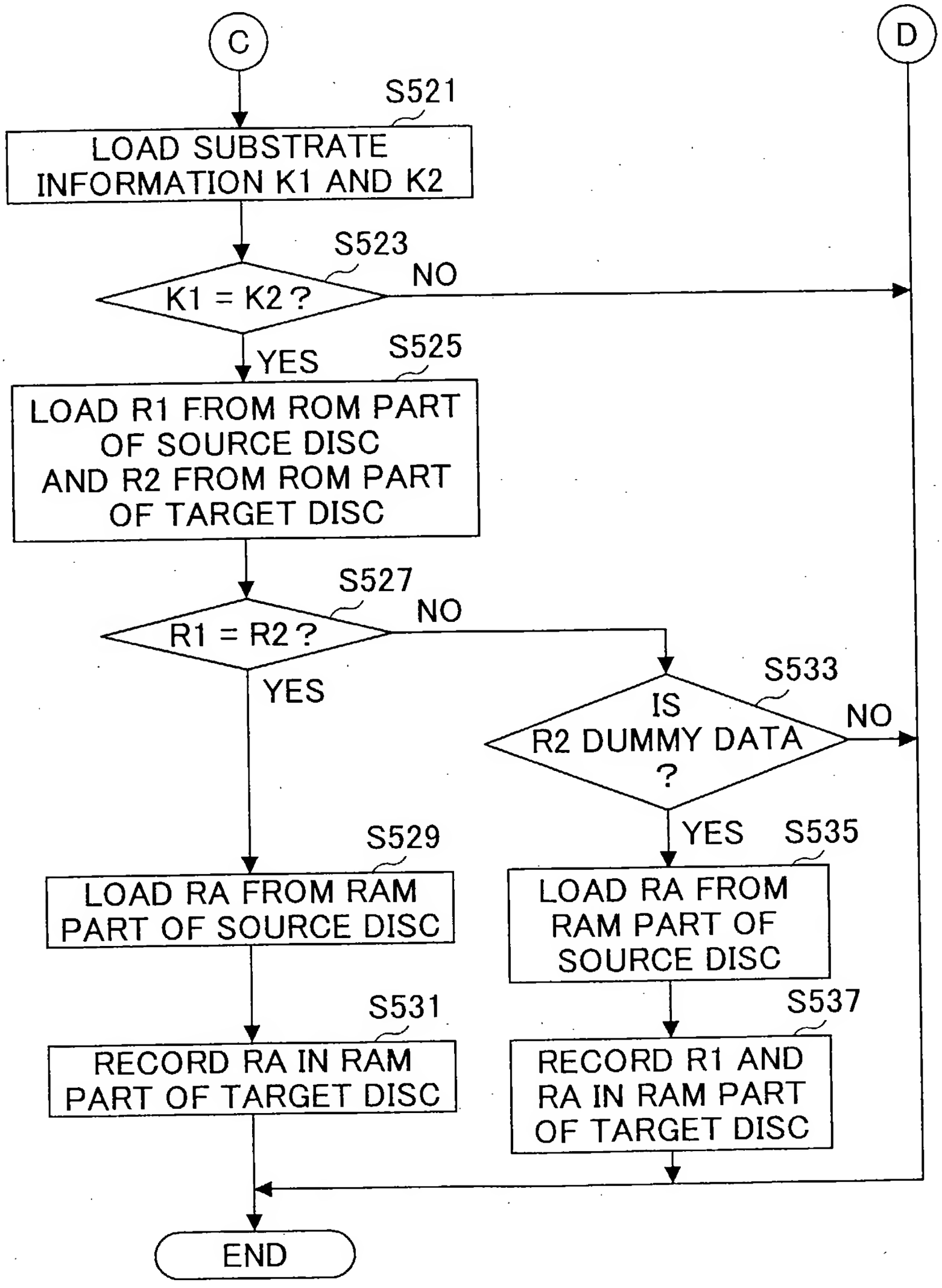

START
S501
REQUEST USER TO INSERT SOURCE DISC
S503
IS SOURCE DISC INSERTED ?
NO
YES
S505
OBTAIN DISC INFORMATION OF SOURCE DISC
S507
IS SOURCE DISC A HYBRID DISC ?
NO
YES
S509
REQUEST USER TO INSERT TARGET DISC
S511
IS TARGET DISC INSERTED ?
NO
YES
S513
OBTAIN DISC INFORMATION OF TARGET DISC
S515
IS TARGET DISC A HYBRID DISC ?
NO
YES
C
D

FIG.14


C
D
S521
LOAD SUBSTRATE INFORMATION K1 AND K2
S523
K1 = K2 ?
NO
YES
S525
LOAD R1 FROM ROM PART OF SOURCE DISC AND R2 FROM ROM PART OF TARGET DISC
S527
R1 = R2 ?
NO
YES
S533
IS R2 DUMMY DATA ?
NO
YES
S529
LOAD RA FROM RAM PART OF SOURCE DISC
S535
LOAD RA FROM RAM PART OF SOURCE DISC
S531
RECORD RA IN RAM PART OF TARGET DISC
S537
RECORD R1 AND RA IN RAM PART OF TARGET DISC
END